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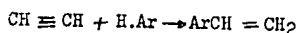
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SOURCE Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, No 1,  
1953, pp 184 and 189.RECENT USSR WORK ON THE SYNTHESIS OF INDUSTRIAL CHEMICAL INTERMEDIATES  
BY REACTING ACETYLENE WITH AROMATIC COMPOUNDS

At the Joint Scientific Session of the Department of Chemical Sciences, Academy of Sciences USSR, and the Academy of Sciences Uzbek SSR, held on 24 - 29 October at Tashkent, I. P. Tsukervanik, Corresponding Member of the Academy of Sciences Uzbek SSR, presented the following information in a report entitled "Concerning the Reactions of Acetylene With Aromatic Compounds."

According to Tsukervanik, the research which is outlined below has been done on the alkylation of aromatic nuclei with bifunctional compounds. By adding  $\text{FeCl}_3$  and some other substances to  $\text{AlCl}_3$  used as a catalyst in the reaction of benzene with acetylene, the relative yield of low-boiling fractions is increased. The low-boiling fractions in this case contain styrene in a quantity amounting up to 15% of the total yield of all products. Thus, the possibility of conducting the condensation according to the equation



has been proven and the conclusion, based on prior results, to the effect that the reaction does not proceed in this manner has been refuted thereby. Methods which will result in higher yields of vinyl compounds have been devised.

The condensation reactions of dimethylaniline with acetylene, vinyl chloride, and acetaldehyde in the presence of  $\text{AlCl}_3$  and other catalysts have been investigated in detail. The conditions for the preparation of di( $\gamma$ -dimethylaminophenyl) ethane with a yield amounting to 40% of the theoretical have been established. The nature of the products of anomalous reactions has been clarified: the products in question are leucobases of diphenylmethane and triphenylmethane dyestuffs.

The 1,1-diarylethanes were not accessible hitherto, and for this reason they have not been adequately investigated. They are of great value as starting materials for various syntheses. Some of them can be used without

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Further processing as components of lubricating oils, antioxidants, etc. The chlorination, nitration, and sulfonation of diphenylethane and other substances of this class have been investigated. The chlorination and nitration products are analogs of the known insecticides of the DDT type; their properties are being thoroughly investigated at present.

At the discussion on organic synthesis which took place in connection with the joint session, it was noted that the work of I. P. Tsukervanik's group on alkylations is of interest not only from the practical but also from the theoretical standpoint, because methods developed in the course of this work lead to the synthesis of hydrocarbons of the diphenyl and cyclohexyl series, i.e., of model substances corresponding to those that occur in the kerosene fractions of petroleum crudes.

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